Dragon's Den UK: a comparative analysis of the growth of featured firms

by

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Internship Report for Master in Management

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September, 2015

Biographic note

I am Nuno Filipe Costa Lopes, born on the 19th of January 1990, in Braga, Portugal. I have concluded a bachelor in Economics at *Faculdade de Economia da Universidade do Porto* in 2013, the same year I later enrolled in the Masters in Management program in the same university. During my studies there, I was in most years part of the Handball team of the faculty, competing in the regional and national university championships.

During the second academic year of the Masters' program, from September to December 2014, I joined *Ernst & Young* for a curricular internship in their Transaction Advisory Services department. This internship served as the motto for the work hereby presented.

Recently, in May 2015, I moved to Amsterdam in the Netherlands to join *Atradius*, a trade insurance global company, where I started working as a Financial Controller for the IT department.

Acknowledgments

Before proceeding to the actual content of this study, I'd like to acknowledge everyone who, in any way, has helped me to complete this important stage of my life.

First, for everything they have ever done for me, all the support provided, whether academic related or just on a personal level, I'd like to thank my family and friends. But most of all, to my parents, for all the sacrifices they made for me to be able to be where I am today, whether they were financial sacrifices, time sacrifices or just emotional sacrifices, for all the education they themselves provided me with from a young age, always encouraging me to go further and push myself to constantly improve and learn.

Secondly, I'd like to thank *Ernst & Young* for the opportunity they gave me to have a first work experience, to join their team and learn from their business and activities, as well as for their availability to help me get what I needed to successfully complete this journey. I grew a lot in those three months, I gained skills and knowledge on the industry I couldn't have otherwise, and I met some extraordinary people who worked for the company. I'd like to specifically thank my counselor, José Torres, who was always very helpful with my questions, doubts and requests.

At last, I'd like to thank to everyone in the University who has helped throughout this academic path I have taken the last 7 years of my life. To my colleagues which I have learned together with, often helping each other, to my teachers who not only taught me the knowledge I have gained, but also shared with me their personal experiences and took my education to the next level. And especially, to Professor Miguel Augusto Gomes Sousa, my supervisor for this work, for all the support, guidance, discussion and critics that he provided me with throughout these months, without whom this work would not be the same.

To all, my humble thank you, you are all in some way present in this work.

Abstract

Reality shows in television featuring business angels, such as *Shark Tank* and *Dragon's Den*, have gained a lot of popularity in recent years. They bring to the invited companies not only the possibility to raise capital for their company next to business angels, but also everything that 10 minutes of publicity on national TV can bring. Although business angels have been a widely studied topic, this specific subject of TV shows featuring them has been so far ignored in research, with no studies regarding the effects this kind of show has, either on the featured companies or the economy of the country in which it airs. This particular study tries to analyze the effects that a TV show like this can have on the featured firms, by analyzing their growth before and after the show airing, alongside the growth of similar companies, and making comparisons based on the different decisions they take on and after the show. While addressing several issues along the way, the main question to answer is if whether or not striking a deal in the show is the best outcome for the future growth of the company. The gathered data and further analysis curiously shows no statistical evidence to support such claim, while also providing some other insights.

JEL-codes: D92, O12

Key-words: Business Angels, Dragon's Den, Total Assets, Investment, Firm Growth

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1. Introduction

For the past few years, all over the world we have seen reality TV shows in a business environment prosper and gain recognition (Edwards, 2006; Lee, 2014). Shows such has *Shark Tank*, *Dragon's Den* or *The Apprentice* have been broadcasted and franchised in a large number of countries, as we see an entrepreneurship wave rising seemingly everywhere.

Shark Tank or *Dragon's Den*, title depending on the country where it is aired, consists of a TV Show featuring 5 business angels from the country, who listen to different pitches from entrepreneurs who have started their own business and are looking for capital to grow them. These business angels consist in individuals with vast wealth who use it to invest in private companies and help them grow, with hopes of future return on their investment (Deakins and Freel, 2003; Gregson *et al.*, 2013; Shane, 2012). In Portugal, the first season of a Portuguese version of the show, named after the American version (*Shark Tank)*, was aired during the period this dissertation was carried on.

The Portuguese version of the show is produced with the main sponsorship of *Ernst & Young* (*EY*), the same company in which, for the last three months of 2014, I did an internship while integrated in the Transaction Advisory Services department, a department focused mainly on due diligences of potential M&A deals. When *Shark Tank* was announced, and I found that *EY* was the main sponsor, I knew I had found the subject for my internship report.

The subject is highly relevant when we take in look the current situation of the country itself. The economic outlook of Portugal has suffered in the recent years, as the latest crisis was heavily felt and condemned Portugal to an intervention by the Troika for financial rescue, the tripartite committee led by the European Commission with the European Central Bank and the International Monetary Fund, with the economic growth of the country being held back as austerity measures were put in place. Recent economic indicators for the recent year and forecasts for the next years by such institutions as the IMF itself start to paint a brighter future, and the push for entrepreneurship made in the country has undoubtedly played his part. This push made possible the emergence in Portugal of successful companies, such as *Farfetch*, a start up from Guimarães who raised an investment last March of 176 million Euros, which represented a valuation of 1 billion Euros for the whole company[1].

A show such as *Shark Tank* can help not only local entrepreneurs seeking investment that they couldn't otherwise get, or didn't know how to, but also possibly providing some business education in general, and even inspire people on their own ventures.

On the other hand, there have also been some critics against a possible undervaluation of the featured companies by the business angels. We will look further into this as well in the study.

It is also important to stress out that no deal made on the show and broadcasted is a final deal. All deals are pending due diligence, i.e. after the recording of the show the business angel will look into the company information in a more detailed way, whether it is financial or operational information, to verify all claims made, and check if no vital information was purposely left behind. All parts, entrepreneur and investor, can walk out of any deal made on the show, and this is an important note as we will see later on.

The literature on the topic is scarce, namely, on the impact these shows have either on the business environment of the country they are broadcasted or on the companies who actually feature in them. The literature is even rarer and inexistent on a more numerical and pragmatic approach, more precisely, an actual analysis of the performance of the companies who feature a show such as the one we are focusing on, looking for an investment of an experienced business angel.

Hence, this is exactly what this study proposes to do, an analysis of the growth of actual firms who have featured in those reality shows, before and after the airing of their respective episodes.

The main objective of this work is to answer questions such as: Does featuring a show such as *Shark Tank or Dragon's Den* bring, by itself, benefits for the companies? What is the best decision that a company who will actually feature the show could take? These will be topics addressed on this study that derive from the key question of this

[1] *"Farfetch recebe investimento de 176 milhões para facturar este ano 450 milhões"* http://economico.sapo.pt/noticias/farfetch-recebe-investimento-de-176-milhoes-para-facturar-este-ano-450-milhoes_213274.html

study: Is striking a deal on the show really the best outcome for the future growth of the firm?

In order to address these issues, comparisons were made among the growth performance of a sample of firms who have attended the UK version of the show, *Dragon's Den UK* and the growth of similar firms.

After this brief introduction, Chapter 2 includes a literature review on the different subjects approached throughout the report.

Chapter 3 presents the methodology and all the different steps to collect the data.

This will be followed by the presentation and discussion of the results in Chapter 4.

Chapter 5 concludes and a Critical Review of the work is presented in Chapter 6.

2. Literature Review

Due to the nature of this internship report and the limited literature on this specific topic of entrepreneurial reality TV shows, as well as their economic impact, this review will focus on addressing a few key points that are part of the subject and its environment by pointing out some definitions, theories and findings relating to the topic.

Hence, this chapter will address first the literature on Angel Investors and the Equity Market, then on business reality TV shows and, at last, on the use of total assets growth rate as a proxy for the firm growth, as this will be the measure used in the analysis made on this study.

2.1 Business angels and the equity market

The importance of small and medium-sized enterprises (SMEs) for their respective country's economic prosperity has been well accepted (De Clercq and Sapienza, 2006), as they have been often referred to as the "lungs of the economy" and account for roughly 90% of businesses and over 50% of employment worldwide (IFC, 2012). These high-growth businesses have been found to be one of the main reasons behind the economic development of countries (Harding and Cowling, 2006), with their relevance being therefore easily stated.

However, often these businesses do not have an easy task when it comes to accessing the funds that they need in order to launch, maintain or expand their business (Mason and Harrison, 1996). This aspect makes it even harder for such companies to be successful in this increasingly competitive world, enhancing their struggles, cash flow problems or just plain and simply making it impossible for such companies to continue their normal operations.

To get the funds they need, after exhausting their own funds and the 3F's (*Family, Friends and Fools*), these firms essentially have two options: a loan and sell equity. More recently, crowd funding emerged as a third option for raising capital, but will not be analyzed for the purposes of this work. The first two options are studied by (De Bettignies and Brander, 2007), who compare the value of keeping the equity by getting the fund through a loan with the value added by a venture capital firm. However, a loan is often very expensive, difficult, or even impossible for small companies to obtain, and pursuing equity markets becomes the most realistic option for an entrepreneur.

Fenn *et al.* (1997) explore the private equity sector and define the organized private equity market, which essentially comprises professionally managed venture and non-venture capital firms. Prowse (1998) later expands on the subject, defining the informal private equity market, where "private securities are sold to institutional investors and what securities law defines as accredited individuals", and the angel market, where individuals invest in securities mainly "not subject to the rigorous disclosure requirements for public entities".

The angel market is then populated by, as the name suggests, angel investors or business angels, wealthy individuals who use their own capital and often time and experience to invest in small private companies to which they have no family connection (Deakins and Freel, 2003; Gregson *et al.*, 2013; Shane, 2012). They are probably the biggest source for start-up companies in need of financing, as several authors have pointed out. Freear *et al.* (1996) estimated it to be between 10 and 20 billion dollars, comparing with 6 billion of the Venture Capital (VC) sector, while Wiltbank (2009) argues that business angels (BA) invest annually 2 to 5 times more than VC firms and Wong (2009) estimates the BA market to be twice the size of the latter.

Both BA's and VC firms are therefore of the most importance for the future of start-up firms. George *et al.* (2005) highlight that VC firms and BA represent one of the most critical owners in entrepreneurial companies, ranking behind only the entrepreneurs themselves, while Mason and Harrison (1996) suggest that both types of investors have their own value adding capabilities and at the same time provide "smart money".

However, there are notable differences between the two, with positive and negative factors for both sides, and the entrepreneur's choice should be one well informed and based on these facts, and what he feels is best for his business.

Fairchild (2011) compares both groups of VC firms and BA and focuses on the empathy relationship between the BA and the entrepreneur. In Fairchild's model, the entrepreneur must choose between the empathy he has with the BA and the trust that it brings, or the higher value creating abilities of the VC firm, with whom a more distant relationship is expected. The empathy of the relationship with the BA creates what he calls a "warm glow feeling", a feeling of comfort that can make him choose the BA over the VC firm despite the fact that the latter would have actually maximized the company value.

On the other hand, Gregson *et al*. (2013) note that VC firms tend to focus on more mature companies, involving less risk and going with larger deal sizes, leveraging their own growth. This has, according to them, created an equity gap, which they define citing Reid (1998) as "the absence of small amounts of risk capital from institutional sources for companies at the seed, start up and early growth stages".

BA's can therefore play an important role in closing this equity gap as Mason and Harrison (1996) defend, by going after this higher risk/higher rewards ventures, for they are often considered the only group of investors open to mainly investing in high-growth companies dealing with funding problems (Van Osnabrugge and Robinson, 2000).

It also helps that BA often put their trust ahead of documentation such has extensive business plans, despite requiring them for investment (Prowse, 1998), and rely more on their gut feeling than in traditional financial models used by VC's to calculate measures such as a required rate of return on capital. The author also highlights that they often complain about the inefficiency of information channels that they rely on to find deals, and the number of deals made would probably increase if information was more easily accessible, an important point since shows like *Shark Tank* and *Dragon's Den* present an opportunity for unknown firms to introduce themselves not only to the investors on the show, but also to investors possibly watching at home.

When an angel investor has completed an investment in an early stage venture, he can essentially deal with it from two different approaches, depending on his personality, interest and his style, being a more hands on approach or a more hands off.

These different approaches are well described once again by Prowse (1998), who identifies them as "active angels", and "passive angels". Active angels, besides investing in the company, are the ones who actually get involved with the company, oversee their evolution, advising and helping in the different ways they can. Passive angels on the other hand pretty much just stick with the financing, providing the money agreed and not becoming involved with the firm.

More related to the geography of the sample later used in this paper, Lindstrom and Olofsson (2001) actually suggest that BA in the UK tend to be more passive than usual, participating little in meetings and being reluctant in engaging with the firm.

However we will be analyzing TV angel investors, more connected to the public audience and one could argue that they are more open due to that, and would tend to have a more active approach. Also, according to Fiet (1995), the possibility of agency risks, the entrepreneur pursuing his own personal interests, can often lead to more actual post investment involvement by the investor, and Mason and Harrison (1996) suggest that even more passive BA's tend to get more involved with the firm they invested in when harder times arise and create difficulties to the firm.

This activeness of BA's, the relationship they have, their involvement, is actually the most important way in which they add value to their investee firm (Politis, 2008). When they get into an investment, these active angel investors don't just provide financial input (Harding and Cowling, 2006), but actually go beyond that.

This is of extreme importance, since despite the entrepreneurs in charge of young high growth firms generally being technically well trained, most of the times they lack the management skills and business training and experience required to succeed in this increasingly competitive business environment (Freel, 1999), and the firms themselves in general are not in possession of relevant social capital, meaning business contacts or access to networks that they need (Davidsson and Honig, 2003).

Therefore, we can begin to grasp the value added by such investors. Numerous studies have been done trying to capture all the different ways in which they add value. Apart from the obvious fact that an investment from an angel investor will help in the financial aspect, overcoming the funding problems of the firm, active angels also provide the investee firm with their own management expertise, their experience and knowledge in the business world, they provide them with access to their own network of contacts, opening up new opportunities for the firm, they can give the firm some technological stimulation by arming it with new tools, while also making the firm more credible in a financial point of view, leveraging it for further funding from other sources such as banks or venture capital firms, as the risk of the firm is reduced by their investment (Harding and Cowling, 2006; Macht and Robinson, 2010; Mason, 2006).

Prowse (1998) also points out that angel investors can also help the investee firm by hiring top management personnel with deep knowledge on the industry, recruit valuable members for the board, or help on more specific aspects of the business such as solving major operational problems, evaluating capital expenditures or helping with the definition of the firm's long term strategy.

Even the entrepreneurs themselves often recognize that the experience of the business angels, their knowledge and expertise are more valuable to them than the actual financial input (Lindstrom and Olofsson, 2001).

Hence, due to the high mortality rate of start-up firms, with more than 50% of start-ups in Europe closing their businesses within 5 years of their birth (European Commission, 2003), the angels become a critical factor in the hopes of dodging this end, a help that any young firm would be grateful in having.

In the light of this information, it is good news that the number of business angels, as well as the number of actual deals that they agree on, are on the rise (Brzozowska, 2008). This is probably due also to an increase in the interest on Entrepreneurship, as more and more people dream with their own business, as we can observe in the USA with the general population's past dream of owning their own a house shifting nowadays towards owning a their own business, a trend seen in Europe too. This creates more opportunities for the angels to invest as more companies are "investable".

In a timeframe perspective, most angels have an investment horizon of five years (Prowse, 1998), meaning they hope to get a return on their investment within that time, since studies have shown that the most value added by investors actually happens within the first few years of the investment, when the impact of their presence and added benefits is really felt (Bertoni *et al.*, 2011). Therefore, in a way, it is within that timeframe that they will have the best return on their investment.

2.2 Business related reality TV shows

The business world has been present in television for many years, but up until very close to the turn of the millennium, it was seen in very different eyes than it is seen today.

Up until then, no real TV shows were made with the purpose of deeply exploring or focusing on the business aspects and particularities of any person, situation or subject. Business television was far away from popular culture, and was reserved for targeted programs to business people. Usually in popular culture, business men in fictional TV shows tended to be represented has bad, sneaky and fraudulent, always leaving a bad impression and misrepresenting the people involved in such an important area of our life. This was due to a vision from the executives that 'money was boring' for television, that predominated for many years (Edwards, 2006).

In the UK, this changed in the 1990's with the appearance of shows in the business entertainment format such as the *Troubleshooter*, and has continued since in the new millennium with shows as *Dragon's Den* and *The Apprentice*. With these changes in the TV environment, airing shows that reflected the values of entrepreneurship, the TV industry even learned some of its values for itself and started its own mini-revolution, leading to changes in its culture and also starting the rise of independent TV stations, while inciting the same entrepreneurship values to their audience (Lee, 2014).

These changes were also reflected in the popular view of what is an employee. The public conscious was saturated with the image of a "loyal company man", the only image that was projected and promoted towards them (Sampson, 1995). This also changed as the image of the risk taking entrepreneur started to be projected too, after being away for so long, along with their failures and successes.

While showing this, their journeys, their ups and downs, their good and bad sides, shows such as the *Dragon's Den*, as suggested by Down (2010), act as a guide for the viewer, providing them with a list of do's and don'ts in order to succeed, what are the behaviors that a successful entrepreneur should have.

Nolan (2012) argues that a show like *Dragon's Den* "relies upon and extends its audiences' literacy in the language of business", providing them with not only quality entertainment, but also giving them the chance to learn and get a few key points on how to achieve success in business. A similar point is made by Kiersey (2014), who argues that this kind of shows give the viewers a feeling that by taking their message seriously and following their advices, a business can succeed even during a bad recession.

The show has been featured in many countries from all over the world, with all types of backgrounds, while its format has also been widely spread and useful, particularly in developing countries (Jubraj, 2015). The United Bank of Africa even introduced a similar TV show in 2008, stating that "*Dragon's Den* is unique and different from other business reality shows and will further the bank's aim to promote entrepreneurship and innovation in Africa."

2.3 Total assets growth rate as proxy for growth

Since the purpose of this paper is to evaluate the growth of the companies that were participants in the UK version of *Dragon's Den*, whether or not they successfully completed a deal, it becomes quite important to discuss how will this be made, what kind of data and framework will be used, because available data regarding entrepreneurial firms is rather slim and rare (Brav, 2009).

Garnsey *et al.* (2003) analyzed growth measures for young companies, and classified them into three different types: measuring in terms of inputs (such as investment or number of employees), in terms of value (such as own assets or market capitalization) or in terms of outputs (such as sales or profits). A review of the studies made on growth was also done by Delmar (1997), who concluded that overall the measures of growth most often used are growth of sales, employees, assets and market share.

Due to the scarcity of reliable information on data, for the purposes of this work we will focus on the measures in terms of value as per Garnsey *et al*. (2003), most specifically the value of assets. This is because the data available for this analysis lead to the conclusion that data regarding inputs or outputs is even more scarce and rare, while information on assets is more easily available in databases such as *Amadeus*, at least regarding firms based in the UK, which is the scope of this work.

As in other studies such as Alarape (2007), Glancey (1998), the total assets growth rate of firms will be used as proxy for their actual growth rate.

Revest and Sapio (2013) actually make a comparison between private companies and listed companies utilizing, among other data, the total assets growth rate, with the purpose of studying the relevance of what they call the Alternative Investment Market towards the growth of a firm.

Hence, the total assets growth rate will be calculated in accordance to Weinzimmer *et al.*(1998):

$$g = \frac{(TA_1 - TA_0)}{TA_0}$$

where g represents the total assets growth rate for the period between 0 and 1; TA_1 is the total assets value at time 1; TA_0 is the total assets value at time 0.

We shall also keep in mind that the relative growth of a company has a negative relationship with not only that said company's age, but also with its size (Evans, 1987).

2.4 Similar studies

Despite not yet having been made studies that analyze the performance of companies who have participated in TV shows such as *Dragon's Den* before and after the show, there have naturally been studies who have analyzed the growth of companies in different situations and circumstances throughout a period of time, which in all fairness is the exact goal of this study.

Different methods have been used, and a compilation of a few studies taking a similar approach for an analysis on other unrelated subjects can be found in the Annexes.

Most of them use the total assets growth rate as a unit of analysis for firm growth, even if not as the only unit of analysis in their study, but just one of several. The methods for analysis used vary from Correlation and Regression to try to establish deltas between the featured groups of each study.

The method applied in the present study, however, will not be one of those, as available information for this topic is not enough to make a proper regression or correlation analysis with a specific purpose.

Solomon (1997) on the other hand uses stock prices as unit of analysis, which essentially represent a market evaluation of the company's assets. He evaluates the value added by consultants to their client firms, using an approach of setting a timeframe of a certain time before and after the consulting engagement. This is also important since for the purposes of this work there is the need to set a timeframe around the airing of the show itself, to analyze the growth between it.

Hence, despite these studies being on different and unrelated subjects, bits and pieces of their approach can be adapted into this work.

2.5 Critical review of literature

When we take a look on what's available as literature on Business Angels, it is obvious that a lot of research has been done on this topic, on their characteristics and features, on the type of benefits that they bring to their investee firms, among other things.

However, it seems that a more analytical approach to the benefits is still lacking. This topic has essentially been covered mostly on a theoretical basis, which despite being understandable due to the difficulty of gathering information, leaves the door wide open for other authors to step in and contribute with models and analytic analysis on the subject.

Even a subject somewhat easily quantifiable, such as an analytical approach to the difference of performance between VC backed firms and Angel Investors firms, is a subject that only as seen the work of Fairchild (2011), and can still be further developed.

This is even more the case when talking about business related television. All literature found is a theoretical approach on the subject, the evolution of the business thematic in television overtime, how it has changed and how it has produced changes. This however is not really backed up with numbers, neither other potential studies have been made addressing any of the numerous questions one could ask in an analytical point of view towards the benefits (or not) of these shows.

Hence, this is what this work aims to do, an analytical study in this fields which are, so far, much more based on theory. The goal is to provide with a first analytical analysis on the participants of a show such as this one, gathering data from their performance throughout the years and assessing with numbers the different growths of the firms depending on the outcome of their participation of the show.

3. Methodology and data

In order to answer the main question of this study (Is striking a deal on the show really the best outcome for the future growth of the firm?), the UK's *Dragon's Den* was chosen as the analyzed program, since not only is the show now on the 12^{th} season, and so has a fairly big enough pool of data to study, but also the geography of the featured firms in the show provides us with the ability to access the *Amadeus Bureau Van Dijk* database to retrieve their financial information, something not possible with US or Canada companies, the two other biggest versions of the show.

3.1 Data collection

In order to collect the data, season 6 until Season 10, aired between 2008 and 2012, were watched. Season 6 was chosen has the point of beginning since it was essentially the borderline, as information on companies from past seasons was less likely to find in *Amadeus Bureau Van Dijk*. Season 10 was chosen as the end because it was the last one that allowed for an analysis of what has happened at least 2 years since the show itself aired.

From a total of 184 companies featuring the episodes, there were 96 companies who received an offer from at least one of the *Dragons*, with 83 of them being accepted and 13 rejected. There were also 88 companies who had not received any sort of offer.

A thorough search was then conducted in the *Amadeus Bureau Van Dijk* and *Duedil* databases, accessing those companies balance sheets in order to gather the information related with the total assets of the companies.

For comparison purposes, a peer group was selected for each one of the companies, comprising the 10 firms in the same industry (according to the *NACE* code) and in the same country – with the closest total assets value to each sample company in a given year. After retrieving the same relevant financial data as the one previously retrieved for the analyzed companies, the median for each group of 10 was calculated. The use of the median instead of an average was chosen to lower the possible influence of the existence of outliers in the sample.

At this point, the sample was reduced from 96 companies who had received an offer to 80 who also had relevant financial information available. The companies with no offers were also reduced from 88 to 44 with the same sort of information.

The next step was to define a timeframe to analyze the companies. Taking for example the work of Solomon (1997), the decision was to focus on the performance of a short time before the show aired, and a longer period after the show aired, to compare the evolution of the growth measures in the different situations. Therefore, knowing the date in which each episode had aired, the period defined starts in the year before an episode was aired, and ends two years following it.

This timeframe essentially comprises 3 growth rates, one for each full year of the analysis, which means that the financial data on 4 consecutive years of the company was gathered. The periods will be represented as:

- year -1 (the year just before the airing of the show)
- year 1 (the first year after the airing of the show)
- year 2 (the second year after the airing of the show)

This further reduced the sample, since not all of the companies with financial information available actually met all these requirements. Of the 80 companies who had received an offer and had financial data available, only 35 of them had it for the required 4 years.

However, 13 more companies had the data for the first three consecutive years and so could be used in partially in our analysis. This means that the third year growth rate, which is related to the second year after the airing of the show, will have a slightly smaller sample.

Hence, we got a final sample of 48 companies who had received an offer and met the necessary requirements to be part of the analysis. Moreover, regarding the set of companies receiving no offers in the show, the final sample was further reduced to 16 firms meeting the requirements. Table 2 provides a breakdown of these the trimming down of the sample:

Table 1 - Overview of the companies' data

Total of companies		184
Without offers		88
	With all required information	16
With offers		96
Accepted		83
	With all required information	41
Rejected		13
	With all required information	7

Besides these 3 years of the chosen timeframe, the data (for the companies who had it available) from the year before and after the timeframe, i.e. *year -2* and *year 3* as they will be referred to from now on, was also retrieved and will be presented, with an even smaller sample. This will not be part of the main analysis, the comparisons among the different groups, but will instead just be used for some general considerations on the sample as a whole.

Finally, for all those final sample companies, the total assets growth rate was calculated in accordance to Weinzimmer *et al*. (1998) as previously mentioned.

The same calculation was done to the total assets medians of each of the companies' peer groups. These growth rates were calculated to represent the growth rate performance of similar firms in the same industry.

It was also important to find out whether or not the accepted deals on the show had actually gone through or not. As stated before, the deals broadcasted on the show are not final or binding, as due diligences must be conducted afterwards, and further negotiations may occur.

After a search for news on these deals was conducted turned out only a few results and clarifications, this was complemented by the work of *Tigermobiles*[1], who conducted a research on the developments of companies who featured *Dragon's Den UK*. To answer this particular question, they accessed a paid website managed by the UK Government that provides information on British firms, *Companies House*[2], and searched the Directors, Shareholders and Board Members history of the companies to access if any of the *Dragons* was ever featured in them.

This allowed us to better understand what actually happened after the show for the majority of companies, leaving just one company with no information, who was therefore left outside of the sample. Of the final 48 companies left in the sample receiving an offer from the Dragons, of which 41 had accepted it, only 12 of these deals actually went through, with 29 falling in the due diligence stages.

This is actually in line with reported news articles regarding the outcome of such deals in the UK version of *Dragon's Den*. According to a report by Burn-Callander[3], over half of the deals made on the show in that country don't actually make it through the due diligence stage, and fall through.

3.2 Comparable groups

In Figure 1, we can have a better understanding at the breakdown between groups that the featured firms endured, as well as the number of firms in each group present in the sample, assigning a number to each one of these groups for better identification.

[1] *Dragons' Den - Where Are They Now?* https://www.tigermobiles.com/dragons-den/

[2] *Companies House* https://www.gov.uk/government/organisations/companies-house

[3] *"Half of Dragons' Den investments fall through after the show"* http://www.telegraph.co.uk/finance/businessclub/money/11425328/Half-of-Dragons-Den-investments-fall-through-after-the-show.html

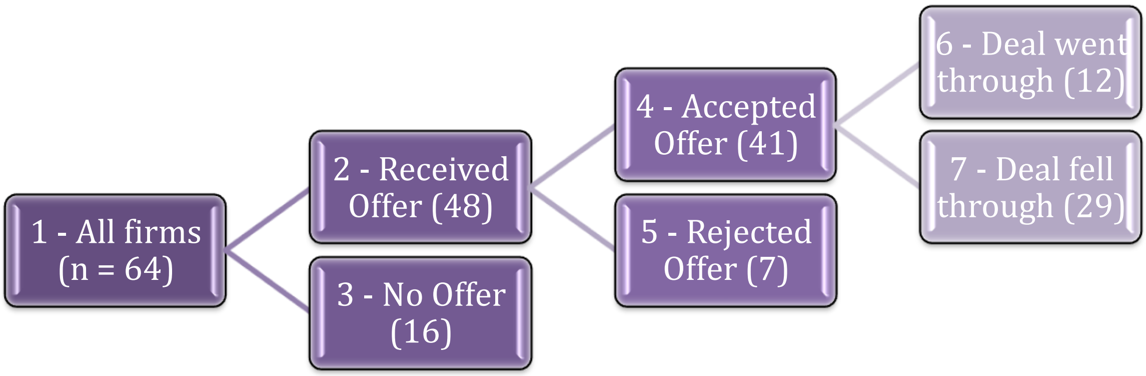

Figure 1 - Breakdown of groups by stage and their sample size

Since the purpose of the study is to analyze the firms' growth through the different options that they have when faced with a presence in a show such as *Dragon's Den*, from the first choice of actually featuring the show or not, to the subsequent choices when possibly being faced with an offer, these groups should clearly be based on the already identified and mentioned key stages of the procedure.

The methodology of the study was rather simple: first the difference between each company's growth performance and the growth of the median performance of their peers was calculated. This provides us with the *peer adjusted variation* for each company in each year, i.e. the difference between their performance in a given year and the median of the similar firms in the industry;

$$p_{X_{TA1}} = g_{X_{TA1}} - g_{GX_{TA1}}$$

where $p_{X_{TA1}}$ represents the *peer adjusted variation* of the total assets value of company X during period 1, $g_{X_{TA1}}$ represents the growth rate of the total assets of company X during period 1, and finally $g_{GX_{TA1}}$ represents the growth rate of the median of total assets for the peer group of company X during period 1.

Next, these differentials would be bundled in the groups previously defined, compiling the average for each group of firms, as well as each groups' peers. Hence, each group has his own *peer adjusted variation*, and this can be used for further comparisons between the groups' differentials themselves.

The decision on which comparisons should be made was based on the key splits of the firms by groups, and comprising all possible sets of data. This means that first we compare groups 4 and 5, as Figure 2 shows:

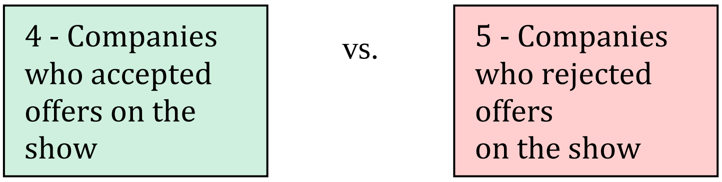

Figure 2 - First comparison

Secondly, we compare group number 6 to all the proposals that didn't end up in a final deal, that is with groups number 5 and 7 combined. If choosing to compare only with deals that fell through, group number 7, we would be biasing the analysis and missing on relevant and available data. Figure 3 better explains the chosen comparison:

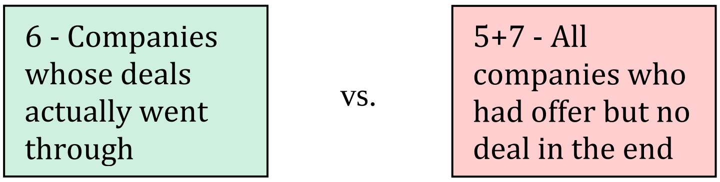

Figure 3 - Second comparison

Besides this, we will also take a look at the global picture of all firms, as well as to the firms who didn't receive an offer.

The method for the analysis chosen was the simple statistical comparison of averages and medians, because the lack of further information for the reasons on why some of the deals failed or the outcome of other investment opportunities made it impossible to proceed with a regression type of analysis.

4. Results and discussion

In this section, the results will be presented in a sequential way following the logic of the study, going from a broader analysis towards other ones more narrow and specific. A deep discussion of the results will also be featured in this section, along each step of the presentation of the results gathered.

For this, several tables representing the gathered data will be shown along this chapter.

4.1 Overview of all data

In a first overview, we take a look at the full picture and see how the all the analyzed companies and their peer groups have performed during the chosen timeframe for this study. This can be seen in Table 2:

Table 2 - Growth of all firms

All Firms	n = 31 Year -2	n = 64 Year -1	n = 64 Year 1	n = 51 Year 2	n = 30 Year 3
Featured Firms	108.36%	160.23%	42.90%	39.97%	6.73%
Peer Groups	4.80%	11.33%	15.07%	16.23%	8.88%
Peer Adjusted Variation	103.56%	148.90%	27.83%	23.74%	-2.15%

In this overview of the whole pool of data, we can first recognize that the companies featuring *Dragon's Den* have a very large growth surplus regarding their peer groups in the years prior to featuring the show. This is easily explained by the pre-selection stages that an application to feature the show takes.

This pre-selection process, comprised of several stages that all firms must endure, naturally leads to, in the majority of the cases, only companies with high growth being invited to continue progressing on these stages and finally get an actual chance to pitch to the investors. This was a natural expectation, as the investors only want to risk their money in firms who have shown potential, i.e. have a high growth on the recent past to back up the projections that they claim for a bright future.

A surplus of the growth of the companies compared to their peers is again registered in the two years after the airing of the show, although being smaller. In the third year after the airing of the show, the peers actually grow slightly more than the featured companies, albeit almost insignificant.

Again, it was also expected that the firms would perform better than their peers in the first years after the show in a general sense, even if only due to the "television effect", and that seems to be in line with the observations. In 2013, G. Deeb, in an article for Forbes[1], uses the cost of a 30 second commercial on the show in the US of 72,000$ to evaluate the 10 minutes of pitch that a company gets on it worth of 1,440,000$. The benefits that such exposure brings to a firm could then easily take it to the next level on its own.

This result suggests that, as expected, just featuring the show brings benefits to the companies, but we will see in the next point that it may not be the case.

An accumulated compilation of the companies' growth can be seen in Table 3, again for the whole sample analyzed.

Table 3 - Accumulated growth of all firms

All Firms	n = 64 Acc. To Year 1	n = 51 Acc. To Year 2
Featured Firms	239.95%	413.69%
Peer Groups	25.96%	41.49%
Peer Adjusted Variation	213.99%	372.20%

This table confirms that firms grow much more than their peers in each industry during the timeframe of the analysis, building up on their momentum from featuring the show.

[1] *"Comparing "Shark Tank" To Venture Capital Reality"*
http://www.forbes.com/sites/georgedeeb/2013/10/09/comparing-shark-tank-to-venture-capital-reality/

4.2 Firms without offers

Now, looking at the companies who didn't receive any offer, this will provide us with a different picture than what we have previously seen. Table 4 shows the results:

Table 4 - Growth of firms without offers

No offers	n = 10 Year -2	n = 16 Year -1	n = 16 Year 1	n = 16 Year 2	n = 9 Year 3
Featured Firms	107.25%	60.68%	31.87%	-0.18%	12.18%
Peer Groups	8.52%	-4.68%	27.79%	9.17%	3.36%
Peer Adjusted Variation	98.73%	65.36%	4.08%	-9.36%	8.83%

As we can see, the performance of these companies versus their peer groups is much poorer than the one observed in the overall sample. The companies were still outperforming their peers largely before featuring the show, as was expected since they were chosen, at least most of them, because they were high growth companies, but after the actual airing, their performance growth is just ordinary.

Just a slight surplus in year 1, offset by a deficit 2 times larger in year 2, lets one start to question if featuring the show, without receiving an offer, actually brings any benefits to the firm by itself.

Naturally the investors, experienced and with a high level of knowledge, will end up selecting the "best companies", and the ones with better chances to succeed. However, this raises doubts on whether or not the companies can benefit from the "television effect" alone.

In an article for the Wall Street Journal discussing the US version of *Shark Tank*, Greathouse (2014) at one point mentions the possibility of bad advertising for the firms that go there. He argues that if a product is poorly received by the investors, it could enhance the difficulties in the future to raise funding.

In general, what we can see from this overview is that, aside from a possible (rather small) initial hype after the first airing of the show, the firms who get no offers don't really get much from the presence in terms of their growth.

On the other hand, it doesn't appear to hurt them either as suggested by Greathouse (2014).

Looking at the accumulated data, shown in Table 5, we get essentially the same insights, a performance until year 1 that is much more based on the growth before actually appearing on the show (65.36% surplus in the previous table for year -1) and one until year 2 that declines from the accumulated growth of the previous year:

Table 5 - Accumulated growth of firms without offers

No Offers	n = 16 Acc. To Year 1	n = 16 Acc. To Year 2
Featured Firms	115.09%	113.59%
Peer Groups	11.05%	29.09%
Peer Adjusted Variation	104.05%	84.50%

4.3 Firms who accepted offers vs. Firms who rejected offers

Concentrating only in the companies who actually got an offer within the show we are able to make a more detailed analysis.

The comparison will be done in two steps: companies who accepted offers on the show *versus* the companies who rejected offers in the same stage and companies whose deal actually went through after the due diligence stage *versus* all the companies who either rejected the offer on the show, or whose deal fell apart for any reason.

The results of the first comparison can be observed in Tables 6 and 7, with 6 representing the rejected offers and 7 the accepted ones:

Table 6 - Growth of firms who rejected offers

Rejected	n = 5 Year -2	n = 7 Year -1	n = 7 Year 1	n = 5 Year 2	n = 3 Year 3
Featured Firms	169.82%	305.92%	38.33%	193.03%	0.59%
Peer Groups	14.12%	13.98%	12.29%	25.40%	18.96%
Peer Adjusted Variation	155.70%	291.94%	26.04%	167.64%	-18.37%

Table 7 - Growth of firms who accepted offers

Accepted	n = 16 Year -2	n = 41 Year -1	n = 41 Year 1	n = 30 Year 2	n = 18 Year 3
Featured Firms	89.84%	174.21%	47.98%	35.87%	5.33%
Peer Groups	6.22%	13.95%	13.00%	10.96%	8.64%
Peer Adjusted Variation	83.63%	160.26%	34.98%	24.91%	-3.31%

The first conclusion we can take from these results, is that the companies who rejected the offers have a much higher growth versus their peers during the pre-show years than the companies who accepted the offers on the show, being almost the double in percentage terms.

We can only speculate whether the rejection was due to greedy entrepreneurs, who felt they would deserve a better deal than the deal offered, or due to greedy investors that were trying to undervalue the deals, leaving no choice to the entrepreneurs but to reject them.

Deeb (2013) touched precisely this point in his previously mentioned article for Forbes, making a comparison of the deals made on *Shark Tank* to the deals made by VC's firms, concluding that the valuation standards on the TV show were much lower than in traditional VC's, and that the dilution levels much higher. This is an observation also supported by Greathouse (2014), who argues the investors in the show usually under-value the companies. Some data regarding this argument will also be presented in the last point of this section.

Since these companies rejecting the offers show larger growth differentials, they are possibly more strong on their valuation ambitions and tend to resist more to the under valuations of the investors, showing more confidence and persistence on their beliefs.

However, after the airing of the show, the companies who have accepted the offers invert the tendency and have peer adjusted variation almost 10% larger than the companies who rejected.

Bertoni *et al*. (2011) claim that most benefits collected from investments are created in the first years after the injection of capital, and this evidence seems to support that claim. However we should remember that in this particular analysis, these accepted deals include the ones that actually failed to progress past due diligence and so a deep analysis will be needed to assess those claims.

Another explanation could lie within the good publicity of actually striking a deal in the show. Good comments and support by the investors in the show, positive attitude and the psychological aspect of a success could possibly induce strongly in the audience the notion that the company provides a good service/product.

On the third year after the show we see the abnormal growth for both groups of companies end, supporting these last couple of claims.

Looking at the accumulate growth in Tables 8 and 9 the group that accepted the offer presents a higher peer adjusted growth rate than the group of companies that rejected the offer:

Table 8 - Accumulated growth of firms who rejected offers

Rejected	n = 7 Acc. To Year 1	n = 5 Acc. To Year 2
Featured Firms	111.08%	467.83%
Peer Groups	18.13%	60.23%
Peer Adjusted Variation	92.95%	407.60%

Table 9 - Accumulated growth of firms who accepted offers

Accepted	n = 41 Acc. To Year 1	n = 30 Acc. To Year 2
Featured Firms	307.64%	554.72%
Peer Groups	32.75%	44.56%
Peer Adjusted Variation	274.88%	510.16%

This results suggest once again that accepting an offer in the show can bring good publicity for the firm and enhance the growth, as the stamp of success in the eyes of customers can be powerful.

Finally, it is important to notice the small number of firms which rejected the offer, making these results difficult to extrapolate.

4.4 Firms with final deals vs. Firms with rejected/failed deals

Moving to the last comparative analysis, we look at the stage after due diligence has been performed and the deal outcome is final and definite, featuring the deals that actually took place versus the deals that were rejected or fell through at some point of the process. Tables 10 and 11 show the results for all the deals rejected or failed and for deals that went through, respectively:

Table 10 - Growth of firms with rejected/failed deals

Rejected/Failed deals	n = 18 Year -2	n = 36 Year -1	n = 36 Year 1	n = 27 Year 2	n = 14 Year 3
Featured Firms	101.80%	215.60%	52.00%	57.27%	8.40%
Peer Groups	6.76%	17.98%	11.74%	7.62%	5.36%
Peer Adjusted Variation	95.04%	197.62%	40.26%	49.65%	3.04%

Table 11 - Growth of firms with concluded deals

Deal went through	n = 3 Year -2	n = 12 Year -1	n = 12 Year 1	n = 8 Year 2	n = 7 Year 3
Featured Firms	151.36%	126.88%	30.29%	61.91%	-2.83%
Peer Groups	16.12%	1.87%	16.35%	31.28%	19.62%
Peer Adjusted Variation	135.24%	125.01%	13.94%	30.63%	-22.46%

The first results show us that the peer adjusted variation is highly positive in both cases before the companies featured in the show.

However, when we analyze the years after the airing of the show, we find that both in year 1 and 2, the companies that didn’t get any deal done have a peer adjusted variation that is the triple of the companies who actually concluded the deal with the *Dragons* in year 1 and nearly the double in year 2.

This is contrary to what was expected, which was that the firms who got the *Dragons'* financial and entrepreneurial help would outperform the firms who decided to do without it.

To what reason(s) can we deem this discovery? One possible explanation can be found in Landström (1993) that states UK angels tend to be more passive than active, not getting much involved and providing the investment and reading reports. Could this be the case, that these particular TV investors actually end up being too passive and don't contribute much to their firms growth, leading to this observations, and would we see different results if the geography of the study was different?

The accumulated tables highlight even more these differences, as we can see in Tables 12 and 13:

Table 12 - Accumulated growth of firms with rejected/failed deals

Rejected/Failed deals	n = 36 Acc. To Year 1	n = 27 Acc. To Year 2
Featured Firms	323.10%	655.94%
Peer Groups	34.25%	48.17%
Peer Adjusted Variation	288.85%	607.77%

Table 13 - Accumulated growth of firms with concluded deals

Deal that went through	n = 12 Acc. To Year 1	n = 8 Acc. To Year 2
Featured Firms	146.57%	158.81%
Peer Groups	19.74%	42.18%
Peer Adjusted Variation	126.84%	116.63%

Here, the difference is even larger, raising more doubts on the actual benefits of an offer on the show.

Another important factor that may explain the difference is the fact that not getting any deal with the *Dragons,* whether the firms rejected their initial offer or their deal fell through for some reason along the due diligence stage, does not mean that they didn't receive an investment from elsewhere. Since they were actually looking for funding, it's possible that in most of the cases they actually ended up getting funds from another investor, being a business angel or not.

There is not much information on this, but from research on the companies, we can say that of the 29 companies whose accepted deal fell through in the due diligence stage, 6 was because the entrepreneur refused the offer and found funding elsewhere. For the remaining 23, for most of them the reasons are unknown.

We can only speculate that these companies actually found more committed investors, more active angels, or even decided to go to a VC firm, realizing they could get a better deal there.

It is also curious to realize that on the third year after the show, the peer adjusted variation on both groups plummets, with the companies with definite deals with the angels actually growing 22% less than their peers. Again, we find evidence to support the claim made by Bertoni *et al*. (2011) that most value added by investors is shown in the first years after the investment.

4.5 Other results

Looking deeply at the possibility defended by both Deeb (2013) and Greathouse (2014), that investors on the show constantly undervalue the companies and which may explain the higher growth of firms who reject the deals, data on the proposals by the investors was analyzed. Table 14 provides the averages of the proposals by the entrepreneurs which received an offer, as well as the final offers from the investors, whether they were accepted or not:

Table 14 - Averages of all proposals and offers

(GBP)	First proposals by Entrepreneurs	Final Offers from *Dragons*
Investment	92,900	101,900
Equity percentage	14.9%	36.6%
Firm Valuation	771,300	298,900

The fact that the average investment offered is higher that the proposals can be misleading, since one of the rules of the show is that the Entrepreneurs must get a full offer on their asked amount, i.e., the investment offer of the investors can't be lower than what was proposed.

However, when we look at the equity percentage, we see that the final offers average is of more of the double than what the entrepreneurs first were aiming to dilute. The firm valuation average from the offers brings the value of the firms down to less than half of what the entrepreneurs were hoping for. This data shows an even more disparity than the one that Deeb (2013) mentions in her article, based on the American version, suggesting that UK investors in the program are even more tough on their demands.

This data seem to support the defense of an undervaluation of the companies, especially if we take into account that the median of revenues of the companies is 300,000 GBP, which would essentially mean that the firms are being evaluated at a multiple of one time its revenues by the investors from the show.

Finally, we can look at the mortality rate among the featured companies. According to the available information, 17% (16 out of 94) of the companies receiving offers have dissolved by the time this study, a percentage that remains consistent with each different group: 2 out of 13 rejected deals, 8 out of 46 deals that fell through and 6 out of 35 deals that followed through were dissolved. A report by the European Commission (2003) sets the mortality rate for start-ups as over 50% after 5 years of inception, and while the timeframe is not the same, since we are bundling companies with different years of operations, some with more than 5 years and some with less, one could still assume that, according to the available data, the mortality rate among the featured companies is lower, whether they strike a deal or not. However, this could be biased by the fact that the show producers perform a pre-analysis and almost only companies with high growth actually feature the show, so therefore would perhaps be more probable to succeed.

5. Conclusions

The objectives of this study were to, by analyzing the growth of firms featuring reality shows in television featuring business angels, find any possible trends or deviances in their growth based on the outcome of their participation. By doing this analysis, our hope was to answer the main question supporting this study: Is striking a deal on the show really the best outcome for the future growth of the firm?

The first conclusion that we can get from this study is that, even if a company is featuring on this kind of show, success is not granted from any perspective. From the analysis made, it was not found any statistical evidence that supported the common belief that just an appearance on the show can bring benefits and increase the growth of a firm just due to the publicity.

However, it's undisputed that featuring in this kind of show may provide an initial hype on the company, while its long term growth key points lie elsewhere.

This study did also not found any evidence that achieving a deal with the investors on the show will lead to greater growth performance of the company.

Contrarily, the results actually point quite the opposite. As our result showed, the companies who passed on the Dragon's deals tend to show a larger growth than the companies with confirmed deals. This may suggest not only that these entrepreneurs might have got the capital they were looking for from other possible investors, which seems rather likely since they got publicity with both customers and other investors by featuring in the show, but also, this being the case, it allows for speculation on whether by doing so they are likely to find more suitable and/or committed investors, resulting in a higher growth. This can be explored by further studies focusing on what actually happened with the companies who passed on the deals.

All in all, an appearance in a show such as Dragon's Den, as well as making a deal within the show, is not, in a general way, necessary linked with superior growth.

Obviously, there is much more that needs to be studied in this field. Jobs created by these companies could be strong possibility for another further study. Sohl (2008) estimated that business angels helped create 200,000 new jobs in the USA in 2007 alone. It is then widely accepted that these individuals, in general, help the economy grow by working with high-growth SME's to achieve their full potential. Is this also the case regarding the companies in a show such as this? Does it have a significant impact on the country's economy?

It is also worth noting that, with regards of Portugal, the first season of the show has just finished, and according to a report written by Barbosa[1], the percentage of deals made was much higher than in the analyzed series here in this study. They reviewed 85 firms, and made deals with 60 of them. This represents a success rate of 70%, much higher than in the UK where it sat at 45% (83 companies out of 184). The same report features a comment made by one of the investors, claiming that they expect that 80% of the agreed deals actually follow through to being actual investments. If this ends up being true, again we see a much higher percentage than the one in this sample, which stood at 42% (29 out of 70 companies), and is in accordance to other reports from the UK .

This could represent a very different set of data for a possible Portuguese version of this analysis. Where the Portuguese investors much more relaxed with their investments? Another open door for a further study, but it seems as if they weren't as selective and demanding as the British investors in this sample.

[1] *Tubarões do Shark Tank investiram mais de três milhões de euros em cerca de 60 negócios* http://www.dinheirovivo.pt/Buzz/interior.aspx?content_id=4462730

6. Limitations and critics

The main problems of the sample are related to the lack of available information among entrepreneurial firms (Brav, 2009). This fact made the already not large sample of firms reduced even further as more than half of the featured companies did not have the necessary information for an analysis, and left no choice but to focus the analysis on the total assets growth rate, due to the absence of Profit and Loss accounts. Here, the analysis of revenues or profits would allow for a more accurate view on the actual extent of the impact of featuring in television on sales numbers.

There is also the geographical limitation of the sample, as this is based on the UK version of the show. This can be a bias on the sample towards the specific conditions of the country's economy, and also due to the personality traits of the BA's of the country, more passive according to Lindstrom and Olofsson (2001). The behavior of BA's of another country might be different, and lead to different conclusions, as we are already seeing significant differences in just the first season of the Portuguese version.

It is also worth to mention that this analysis, while focusing on the available information, leaves out all other possible external factors, as well as some other factors inherent to each firm that can affect their performance. Whether it is the fact that they actually got an investment deal somewhere else, specific business decisions or other conditions that arose, these are all factors that are not taken into account and may distort the analysis.

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Annexes

Annex 1 – Similar studies table

Authors	Country	Period of study	Sample size	Industrial Sector	Data Collection	Unit of Analysis	Statistical Analysis
(Revest and Sapio, 2013)	UK	1997-2009	139,598	All	Amadeus, Osirirs databases	Employees, Revenue, Total Assets	Correlation, Regression
(Alarape, 2007)	Nigeria	Not specified	62	All	Interviews, Financial Reports	Total Assets	Regression
(Glancey, 1998)	Scotland	1988-1990	38	Manufacturing	Company House	Total Assets	Correlation, Regression
(Töyli, Häkkinen, Ojala, and Naula, 2008)	Finland	2002-2004	424	All	Surveys, Amadeus	Revenue, Total Assets	Correlation
(Solomon, 1997)	United States	1992-1993	26	All	Consulting firms; Available inf.[1]	Stock Prices	Correlation

Annex 2 - Database of Firms receiving offers

Company name	Airdate	Description	Investment Asked	Equity Offered	Final Investment	Final Equity	Was it accepted?	Deal went through?
Hamfatter	21/07/2008	band	75	20%	75	30%	yes	yes
D4M Ltd	21/07/2008	events management company	75	20%	75	40%	yes	yes
Neurotica	28/07/2008	fashion designer clothes	56	20%	75	35%	yes	yes
Gemnet solutions ltd	28/07/2008	diamonds online	255	15%	255	40%	no	n/a
Light Emotions	04/08/2008	glow in the dark glasses	40	8%	40	30%	yes	unknown
DDN Ltd	04/08/2008	misfuelling prevention device	250	20%	250	25%	yes	no
Buggy Boot	11/08/2008	storage solution for pushchairs	80	10%	80	30%	yes	yes
Rapstrap	11/08/2008	waste-free cable-tie	150	15%	150	50%	yes	yes
Magic Whiteboard	18/08/2008	portable roll whiteboard	100	15%	100	40%	yes	yes
planit products	18/08/2008	toastabags	200	15%	200	40%	yes	no
guy portelli sculpture studio	25/08/2008	collection of 18 sculptures	70	25%	80	25%	yes	yes
magic pizza	25/08/2008	device to eliminate a soggy middle	50	10%	50	50%	yes	yes
blindsinabox ltd	01/09/2008	temporary paper curtains	40	15%	40	50%	yes	yes
tiny box	01/09/2008	unique recycled packaging	53	20%	60	40%	yes	yes
prowaste management services	08/09/2008	construction waste recycling	200	20%	200	40%	yes	yes
baby loves disco uk ltd	08/09/2008	music event for familys	100	10%	100	40%	no	n/a
sweet-escott aviation ltd	15/07/2009	aviation renewable energy supply	80	10%	80	49%	yes	yes
truecall ltd	15/07/2009	a device to stop nuisance calls	100	7.50%	100	13%	yes	no
westhawk	15/07/2009	environmentally friendly patio heater	255	15%	255	48%	no	n/a
BassToneSlap	22/07/2009	drumming performance for team buil	50	10%	50	40%	yes	no
Magnamole Ltd	22/07/2009	A device to thread cables through cav	50	15%	80	23%	yes	no
Lid Lifters	29/07/2009	A labour-saving device for lifting whe	50	20%	50	50%	yes	no
Servicing Stop	29/07/2009	A bespoke nationwide car servicing c	100	12.5%	100	30%	yes	no
UK Commercial Cleaning	05/08/2009	Commercial cleaning company	100	20%	100	35%	yes	yes
KCO Inline Ice Skating Ltd	05/08/2009	New inline skate that allows dancers	100	25%	100	45%	yes	no
MyDish.co.uk	12/08/2009	Online community for people who lov	100	10%	100	15%	yes	yes
Slinks	12/08/2009	Sandals for every occasion: one base	75	20%	75	40%	yes	yes
germ warfare/ halo	12/08/2009	A range of non-hazardous cleaning pr	100	5%	100	30%	no	n/a
Tech21	19/08/2009	Protective cases for laptops, mobile p	150	5%	150	40%	yes	no
The Spit 'n' Polish Shoeshine Company	19/08/2009	21st Century, multimedia shoeshine b	108	10%	108	40%	no	n/a
The Anyway Spray	26/08/2009	Invention that allows every last drop	125	5%	125	25%	yes	no
Physicool Ltd	26/08/2009	Invention that reduces the temperatu	100	20%	100	30%	yes	no
Earle's	02/09/2009	Food truck franchise that sells hot an	100	15%	100	35%	yes	no
Motor Mouse	02/09/2009	Wireless mice shaped like famous sp	100	20%	120	40%	yes	yes
Pebblebed Vineyard	14/07/2010	The chance for wine lovers to rent the	60	20%	60	40%	yes	yes
Worthenshaw's	14/07/2010	A frozen dessert which is a dairy-free	65	15%	65	30%	yes	yes
Vintage Patisserie	21/07/2010	A vintage hosting company that runs p	100	30%	100	40%	yes	no
Shopbox Systems Ltd	21/07/2010	box to deliver of shopping	250	10%	1000	45%	no	n/a
Golfers' Mate	26/07/2010	A 3-in-1 golf accessory that includes a	100	12.5%	100	25%	yes	no
FGH Security	26/07/2010	A security company that provides mar	75	10%	100	20%	yes	no
Hawksdrift Falconry	02/08/2010	Birds of prey business which does pe	50	25%	50	25%	yes	unknown
Lumacoustics	02/08/2010	An electronic graffiti wall	50	10%	50	40%	yes	no
WedgeWelly	09/08/2010	Wellington boots with a wedge	65	20%	65	25%	yes	yes
Tree of Knowledge	09/08/2010	Educational motivation resource curre	100	10%	100	40%	no	n/a
Peel Engineering	16/08/2010	The world's smallest production car, a	80	10%	80	30%	yes	yes
Funky Moves	16/08/2010	An electronic interactive sports cone p	120	20%	120	50%	yes	no
Surviva Jak	24/08/2010	Jacket that has foil lining to prevent h	75	30%	75	45%	yes	no
The Wand Company	24/08/2010	Kymera - a buttonless gesture-based	200	10%	200	30%	yes	no
Value My Stuff Now	31/08/2010	An online antique valuation service	100	20%	100	40%	yes	yes
Power8 Workshop	31/08/2010	Power8 workshop, a power tool set th	150	5%	150	30%	yes	no
Content and Calm	06/09/2010	A backpack-tray for use on cars, plane	80	10%	80	23%	yes	no
Proppa	06/09/2010	A website that sells vehicle accessori	50	5%	50	20%	yes	no
Media Displays	13/09/2010	A mobile digital advertising service	80	25%	80	45%	yes	no

Company name	Airdate	Description	Investment Asked	Equity Offered	Final Investment	Final Equity	Was it accepted?	Deal went through?
The Present Club	31/07/2011	A website for buying gifts for children	60	20%	60	30%	yes	yes
Ploughcroft Solar	31/07/2011	A company that installs solar panels	120	10%	120	25%	yes	yes
Love Da Pop	07/08/2011	A business turning the old popcorn tr	70	35%	70	45%	yes	yes
Raskelf Memory Foam	07/08/2011	A zip-up memory foam mattress and c	80	10%	80	26%	yes	yes
Fun Fancy Dress	14/08/2011	Fancy-dress shop business and francl	100	10%	100	50%	yes	no
Postsaver	14/08/2011	fence preservation technology	160	20%	160	30%	no	n/a
Unique Ideas UK	21/08/2011	Corporate events and entertainment i	50	20%	50	20%	yes	no
Rollersigns	21/08/2011	Advertising on belt banners	100	10%	100	49%	yes	no
BoginaBag	28/08/2011	Lightweight, portable toilet	50	15%	50	30%	yes	yes
JogPost Limited	28/08/2011	Direct marketing company specialisir	50	10%	50	20%	yes	no
AB Performance	04/09/2011	Bike-engined car manufacturing, serv	50	10%	50	35%	yes	yes
barMate	12/09/2011	Hands-free pint-pulling product	50	15%	50	30%	yes	no
Kiddimoto	12/09/2011	Children's balance bikes	75	10%	75	30%	yes	no
RKA Records	19/09/2011	Record label	50	15%	50	79%	yes	yes
EcoHab Homes and O-Pod Buildings	19/09/2011	Energy-efficient dome-shaped buildir	75	15%	75	40%	yes	no
Shoot It Yourself	26/09/2011	Professional video hiring and editing	60	20%	60	26%	yes	no
Innovative Gadgets Ltd.	03/10/2011	Stainless steel chain mail covering fc	70	10%	70	48%	yes	no
Weave Got Style	09/09/2012	Hair extensions	85	10%	85	40%	yes	no
Skinny Dip	09/09/2012	Fashion technology accessories	120	10%	120	30%	yes	no
Shampooheads	16/09/2012	Children's haircare brand	75	15%	75	20%	yes	yes
Eat with a Local	16/09/2012	connects travelers to local people	50	15%	50	95%	no	n/a
Sweet Mandarin	23/09/2012	Oriental dipping sauces	50	20%	50	40%	yes	no
YUUbag	23/09/2012	Children's backpack and accessories	60	10%	60	30%	yes	yes
Primal Parking	30/09/2012	Car parking space lettings agency	60	20%	60	40%	yes	no
The Wheelbarrow Booster	30/09/2012	Bag to double volume of barrow	50	10%	50	50%	no	n/a
Old Bond	07/10/2012	Spinning, animated advertisement or	90	10%	90	40%	yes	no
Intern Avenue	07/10/2012	Online internship directory	100	10%	100	40%	yes	no
Billy + Margot	14/10/2012	Ice cream for dogs	60	20%	60	40%	yes	yes
WoodBlocX	14/10/2012	Outdoor wooden DIY landscaping pro	75	10%	75	25%	yes	yes
Gigwam	14/10/2012	teepee tents with no poles	100	15%	100	45%	no	n/a
iCafe	21/10/2012	Coffee shop business and franchise	80	30%	80	49%	yes	no
Zapper	21/10/2012	Website which buys books, CDs, DVDs	250	7.5%	250	30%	yes	no
A Turner & Sons Sausage Ltd	28/10/2012	Sausage manufacturing company	80	20%	80	33%	yes	yes
A to E Training & Solutions Ltd	28/10/2012	CPR training scheme	50	10%	50	32%	no	n/a
Envirothaw	28/10/2012	granular and fluid de-icer better than	115	17%	115	50%	no	n/a
Karuma Innovations	11/11/2012	Child-friendly tablet retail company	150	25%	150	75%	yes	no
Pro-Tec Covers	11/11/2012	Caravan and motor home fabric covers	75	10%	75	26%	yes	no
Bionic Glove Technology Europe Ltd.	18/11/2012	Ergonomic, durable, patented gloves	100	40%	100	40%	yes	no
myBunjee	25/11/2012	Mobile phone case attachment to pre	70	10%	70	35%	yes	yes
P4CK	25/11/2012	Product design business, including tw	50	10%	50	30%	yes	no
Rocktails	02/12/2012	Frozen cocktails	80	8%	80	40%	yes	no
Megaflatables	02/12/2012	Large inflatables used for advertising	37.5	10%	40	25%	yes	no
ProperMaid	27/12/2012	Homemade cakes with a twist	50	10%	50	25%	yes	yes

Annex 3 - Database of Firms without offers

Company name	Airdate	Description	Investment Asked	Equity Offered
Air Oasis	21/07/2008	purifier of water	125	10%
Layline	21/07/2008	sheets with a line dividing in the mi	50	20%
Saboteur Crime Prevention	28/07/2008	crime prevention housetools	275	10%
Carbon 6/ Screen Machine	28/07/2008	device for parents control kids TV t	150	15%
Shoes Galore Ltd	04/08/2008	shoe selling franchise	100	30%
Very PC	04/08/2008	energy efficient computers	250	5%
Fresh Olive Oil Club	11/08/2008	Club that distributes prime olive oil	50	10%
FB1- Frank Bisson 1	18/08/2008	blade for cutting hair	100	5%
Ifoods.tv	18/08/2008	social network about food	100	10%
Ladderbox Uk	25/08/2008	Tool tray that multi-fits to the top c	100	15%
Juliette's Interiors	25/08/2008	site selling french furniture and mir	106	20%
Discrete Heat	01/09/2008	central heating	150	10%
TinyDeol.com Ltd	01/09/2008	fat and cholesterol free curry sauc	42	15%
prestige pet's products uk	08/09/2008	bowl for dogs	120	15%
Apocalypse Ltd	15/07/2009	hardcore horror live entertainment	200	20%
The Wholeleaf Co	22/07/2009	natural disposable dinnerware	120	20%
Dusty: A Life in Music	29/07/2009	musical	250	25%
Oarsome Potential	29/07/2009	protective grip for sports	75	20%
Spey Bay Mussel Farm	05/08/2009	mussel farm	100	20%
Clever Bins	05/08/2009	trash bins	65	10%
Wine Innovations Ltd	12/08/2009	pre filled wine glasses	250	25%
Saboteur Crime Prevention	19/08/2009	electric blind closer	120	20%
Grillstream	19/08/2009	easy to clean grill tray	120	15%
Bound Biographies	26/08/2009	biography productions	75	20%
Bee Automobiles	26/08/2009	electric cars	2500	30%
Extreme Fliers	02/09/2009	remote control mini helicopter/car	75	15%
Butterfly Technology	02/09/2009	product to squeeze all from a tube	75	15%
Flow Signals	14/07/2010	21 century traffic signals	50	10%
Flex FX Productions	14/07/2010	A Bollywood dance company which	200	30%
subeo	21/07/2010	personal submarine	1450	45%
EDH Washing Line	21/07/2010		80	25%
Tatty Bumpkin	26/07/2010	A children's lifestyle brand that incl	200	20%
Aquatina	26/07/2010	A collapsible, concertina shaped re	100	10%
Rotaball	02/08/2010	An outdoor leisure activity based o	150	10%
Blooming High	02/08/2010	A stackable outdoor plant containe	50	15%
Black Nut Iberian Pig Feed	09/08/2010	A manufactured pig feed that repla	100	20%
Zigo	09/08/2010	Combined bicycle and buggy.	225	6%
Angel Cot	16/08/2010	Suitcase combined infant cot and b	150	40%
Advanced Building Designs	16/08/2010	Various products for the building ai	89	15%
Gift Card Converter	24/08/2010	Website to buy/exchange gift cards	50	25%
Citidogs	24/08/2010	dogs creche	75	20%
yum yums	31/08/2010	Books for children to encourage he	100	20%
Odourbuster	31/08/2010	A product that can be fitted to toile	75	15%
Abiie Buggy (My Babiie ltd)	13/09/2010	Buggy that incorporates a changing	100	10%
GaBoom	13/09/2010	Website to exchange computer gar	65	11%

Company name	Airdate	Description	Investment Asked	Equity Offered
Miruji Health	31/07/2011	chair to help people lose weight	100	10%
The British DJ and MC Academy	07/08/2011	name speaks	150	20%
UV body sculpture	07/08/2011		50	20%
Rascal Dog Litter Box	14/08/2011	a fresh take on dog litter trays	75	20%
My Sea Safe	21/08/2011	detachable safe for sun loungers	150	5%
Rico Mexican Kitchen	21/08/2011	mexican food	75	20%
Myburgh Designs	28/08/2011	design company	70	20%
Aqua Sheko Fish Spa	04/09/2011	fish spa experience with modern Ja	150	30%
Brat & Suzie	04/09/2011	hand drawn, illustrated animal t-sh	65	20%
Opus Innovations	12/09/2011	baby accessories	50	10%
Health Swing	12/09/2011	indoor, progressive, whole-body m	50	40%
Wingz	19/09/2011	Sleeves for women	50	30%
Realtor Network Ltd	19/09/2011	real estate agency	50	20%
Savvy Lash	26/09/2011	cosmetic tool to safely separate ey	50	20%
The Nuttery	26/09/2011	bird feeders	100	15%
Romeo Products/ Romeo Shell	26/09/2011	an outdoor shelving system for drir	50	25%
Culicka Ltd	03/10/2011	game toy in a cube	80	10%
Redfoot	03/10/2011	folding shoes	300	10%
Sendmybag	09/09/2012	service to ship bags	100	5%
Abspak	09/09/2012	device for abs while seating	50	25%
Third Door Workhub and Nursery	16/09/2012	day care nursery for babies and off	120	20%
Dirty Beach	16/09/2012	Beach bar	100	10%
13 horror ltd	09/09/2012	horror experience books	50	20%
Mamka	09/09/2012	e-commerce website	200	10%
Lost For Words	30/09/2012	Game show	80	25%
Hunting Foot	30/09/2012	products for older people	80	30%
The Wheelbarrow Booster	30/09/2012	bag to double volume of barrow	50	10%
Camping Bugs	07/10/2012	Glamping	250	30%
Sticker Make-up	07/10/2012	eyeliner	50	20%
topline dance frame	14/10/2012	dance frame	97,5	15%
Queue For You	21/10/2012	app to not wait in line in callcenter	150	1%
Fellas	21/10/2012	intimate cleaning wipes for men	60	20%
Drumchasers	28/10/2012	percussion-based musical	60	20%
Nebo	11/11/2012	raised toilet for back pain	85	15%
Purepotions Skincare	11/11/2012	ointments and cream for dry skin	90	15%
Caterquip	18/11/2012	refurbished catering equipment su	100	10%
Dayfame Luxury VIP experiences	18/11/2012	celebrity treatment for a night out	100	30%
Synagi Intelligence	18/11/2012	hand tool with interchangeable hea	95	20%
It-soles	25/11/2012	soles for dancing for women in higł	50	15%
Carkoon	02/12/2012	baby seat with air bag	100	20%
Boatbox Ltd	02/12/2012	box for top of car that turns into bc	100	16%
Melbry Events	27/12/2012	Christmas experience event	100	20%
Pucket	27/12/2012	wooden game	50	10%